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EXAMINER

LEE, DIANE I

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Supplemental

Office Action Summary

Application No.

09/688,170

Applicant(s)

OLIVA, GUIDO MAURIZIO

Examiner

D. I. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12, 14-23, 25-27 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 24, 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. /See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 27 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

SUPPLEMENTAL DETAILED ACTION

1. **This is a Supplemental Office Action.** This Supplemental Office Action supersedes the previous Office Action (paper no. 13). This Supplemental Office Action takes into consideration of the Supplemental Amendment filed 27 January 2003. The examiner regrets any inconvenience to the applicant.
2. Receipt is acknowledged of the Amendment filed 27 December 2002. Claims 1 and 4-20 have been amended; claims 21-32 have been newly added; and no claims have been canceled. Receipt is also acknowledged of the substitute specification filed 27 December 2002.
3. Receipt is acknowledged of the Supplemental Amendment filed 27 January 2003. Claims 6 and 13 have been canceled without prejudice or disclaimer; no claims have been amended; and claims 33 and 34 have been newly added. Currently, claims 1-5, 7-12, and 14-34 are pending in this application.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4-5, 7-9, 11, 16, 19-23, 25-27, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Rudeen [US 5,627,360-cited by the applicant].

Re claims 1 and 19-21: Rudeen discloses a device providing spotter beams 127, 129 for the aiming and visually indicating 130a reading area of a coded information reader (see the abstract), comprising:

a laser diode 32 and an LED 50 as a means for emitting a light beam (see figure 5);

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an optical element 20A that refracting the light beam (i.e., separating the beam into different parts, thus the light beam is spitted to provide different light beam portions active and adapted to be projected on at least two different zones of a reading area of a coded information reader along at least two different optical paths (see col. 3, lines 1+; col. 7, lines 18+, 38+; col. 8, lines 16+; and figures 5, 8, 10, 12);

wherein that said means for deflecting at least one portion of said light beam consists of a refractive optical element (i.e., 122, 124 of the optical element 20A for aiming purposes) (see col. 7, lines 8+ and figures 6A-8, 10-12).

Re claims 4-5, 16, 22-23, and 30: wherein said refractive optical element 20A comprises first and second opposed faces (lower/bottom surface and upper/top surface 119 of the refractive optical element 20A), respectively for collecting the light beam and projecting the two beam portions (126, 127; 128, 129) on the reading area, wherein an optical axis is defined into the refractive optical element. The second opposed face (upper/top surface 119) comprises two first surfaces portions 122, 124, each one inclined by a predetermined angle with respect to the first face (i.e., the inclined surface portion of the refractive optical element is substantially planar with respect the lower/bottom surface of 20A) and adapted to deflect a corresponding portion of light beam by a predetermined deflection angle (i.e., the angle defined by the inclined surfaces of 122 and 124) with respect to the optical axis (see col. 7, lines 33+ and figures 7B, 8, 10, 12).

Re claims 7-8 and 25-26: wherein the refractive optical element also comprises a second surface portion (a central portion 120 centrally located in the optical element with respect to the inclined portions 122, 124) is for transmitting, without any deflection, a second portion of light beam towards the reading area (see col. 7, lines 7-49; and figures 5, 10-12).

Re claim 9: wherein the second surface portion 120 is substantially flat and parallel to the first face (i.e., lower/bottom surface of the optical element 20A) for collecting the light beam (see figure 7B).

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Re claims 11 and 27: wherein the refractive optical element 20A has a cross section smaller than that of the light beam (see figures 6-9 and 12-13).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rudeen in view of Reddersen et al. [US 5,296,689]. The teachings of Rudeen have been discussed above.

Rudeen teaches the refractive optical element 20A having a central portion 120 extended between the first and the second faces and coaxially formed with respect to the optical axis, wherein the central portion for transmitting the second portion of the light (i.e., laser beam) without any deflection towards the reading area.

Rudeen does not disclose the central portion of the refractive optical element is a through hole and wherein the through hole forming the means for transmitting without any deflection at second portion of light beam towards the reading area.

Reddersen discloses an aiming beam system for optical data reading device having a refractive optical element (a diffractive optical module 20 having a first and a second diffraction surface portions 50a, 50b for deflecting portion of the light beam from the light source 10), wherein the central portion of the refractive optical element 20A is an aperture or a window extended between the first and the second diffraction portion. The central portion (i.e., aperture) transmits the beam without any deflection towards the reading area (see col. 2, lines 38+ and figure 1).

It would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to substitute the refractive optical element of Reddersen with the refractive optical element of Rudeen in order to simplified the optical element of the device. Furthermore, the central portion of the Rudeen appears to have some or minimal beam refraction or focusing when the beam strikes the surface directly (see col. 7, lines 8-17). Therefore, substituting the diffractive optical module of Reddersen would eliminate any possible beam refraction and focusing.

8. Claims 2-3, 12, 14-15, 17-18, 29, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudeen in view of Canini [EP 0 0997 760 A1]. The teachings of Rudeen have been discussed above.

Re claims 2-3, 12, 14, and 29: Rudeen does not disclose the device including a means for collimating the light beam and an amplitude mask adapted to impart a predetermined profile to at least two different beam portions.

Canini discloses an optical device for aiming and visually indicating a reading area having an illuminating assembly comprising an LED as a light beam emitting source, an amplitude mask (a diaphragm 4 having a preset shape or predetermined profile effective to select a portion of the light beam generated by the emitting source) placed downstream of the LED, and a converging lens fixedly placed on the downstream of the amplitude mask adapted to collimate the shaped light beam coming from the amplitude mask and project it onto the reading area (see the abstract; col. 2, lines 1+; col. 7, lines 3+ ; and figure 1). The optical device, located on the optical path downstream of the illuminating assembly, a light deflecting prism 9 which is a refractive optical element (see figure 1).

It would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to incorporate the illuminating assembly of the Canini having collimating lens and the amplitude mask in the reader of Rudeen in order to prevent the divergent beam the light beam and maintain the

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narrow beam intensity before the beam strikes the refractive optical component. Such modification would have provided an accurate beam deflecting result and sharp spotting beam on the reading area.

Re claim 15: Canini discloses that the optical device includes a light deflecting prism 9, which is a refractive optical element, located on downstream of the illuminating assembly of the optical path (see figure 1).

Rudeen as modified Canini does not teach the specific arrangement of the amplitude mask, i.e., it is arranged between the collimating lens and the refractive optical element.

It would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to modify the specific arrangement of the collimating lens and the amplitude mask such that the amplitude mask is arranged between the collimation means and the refractive optical element since both arrangement provides a preset shaped of the of the light beam generated by the emitting source. Accordingly, such modification would have further reduced the diverging effect of the light, and therefore, it would have been an obvious expedient.

Re claims 17 and 31: Although the refractive optical element comes in various shapes, Rudeen as modified Canini does not teach other geometric configuration of the optical element.

Since other geometric configuration of the refractive optical element includes (i.e., the cylindrical, convex, spherical lens, and etc., it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to substitute the other geometric configuration of the refractive optical element to provide an equivalent function (i.e., deflecting the light beam). Accordingly, such modification would have been an obvious extension taught by Rudeen as modified by Canini and well within the ordinary skill in the art as taught by Rudeen as modified by Canini.

Re claims 18 and 32: Rudeen teaches that the light of the scanning beam which strikes the refractive optical element which obviously teaches that the reshaping process of the scanning beam is arranged upstream of the refractive optical element. Therefore, it would have been an obvious to an

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artisan of ordinary skill in the art at the time the invention was made to incorporate an additional optical component provided upstream of the refractive optical element according to the desired beam modification.

Allowable Subject Matter

9. Claims 33 and 34 are allowed.
10. Claims 24, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
11. The following is a statement of reasons for the indication of allowable subject matter: the best prior art of the record, Rudeen as modified by Reddersen and Canini, fails to teach or fairly suggest the specific structural of the refractive optical element (i.e., the second opposed face having four first surface portions, each one inclined by a predetermined angle with respect to the first face and adapted to deflect a corresponding portion of the light beam and a poly-prismatic structure having a substantially pyramidal shape with a rhomboidal base) and the predetermined deflection angles in relation to first opposed face and the deflecting angles in relation to the optical axis of the first and the second peripheral inclined surface portion, respectively, are different, as set forth in the claims.

Response to Arguments

12. Applicant's arguments filed 27 December 2002 have been fully considered but they are not persuasive.
13. In response to applicant's argument with respect to Rudeen reference that the optical element of Rudeen produces a light beam traveling along a single optical path which, in succession, is first deflected when the scanning beam strikes upon the second end portion of the optical element, by contrast, the

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optical element of the Applicant's device produces at least two different light beams by splitting the collected light beam into two different light beam portions traveling simultaneously along different optical paths (see page 10, lines 7+); the examiner respectfully disagrees. Rudeen teaches the optical element producing at least two different light beams 127, 129 by splitting the collected light beam (the beam passing through the window 20 is separated into different parts. For example, when the beam strikes the window 20, end portion of the beam passing through the first 122 and the second portion 124 of the optical element 20A provides a first 127 and second 129 cursor image on two different spots. Figures 8-9 clearly show the separated beam into different part. Therefore, the end portions of the light beam is splitted/redirected from the central portion of the beam 126, 127, which provides two different zones of a reading area of a coded information reader along at least two different optical paths (i.e., a first cursor image 127 above the scan line 130 and a second cursor image 129 below the scan line 130, respectively, see figures 8-9).

14. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., just one static optical element without the requirement of the dithering mirror that sweeps the light beams on the scanning plane) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion


15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. I. Lee whose telephone number is 703-306-3427. The examiner can normally be reached on Monday through Thursday from 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 703-305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


D. I. Lee
Primary Examiner
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July 10, 2003